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PRESS RELEASE

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EMBARGO until 14 October 2012-19h Belgium Time**Publication in *Nature Cell Biology* advanced on line publication: researchers at the Université Libre de Bruxelles, ULB identify multipotent and unipotent Stem Cells (SCs) that contribute to prostate postnatal development.**

One of the key questions in biology is the identification of stem cells responsible for tissue morphogenesis and regeneration.

In a study published in ***Nature Cell Biology***, researchers lead by **Cédric Blanpain**, MD/PhD, Welbio investigator and Professor at the Université Libre de Bruxelles, Belgium, identify novel classes of prostate SCs that ensure the development of the different cell lineages of the prostate.

The prostate is a secretory gland surrounding the urethra at the base of the bladder producing the seminal fluid providing nutrients, ions and enzymes necessary for the survival of the spermatozoids during their journey through the female reproductive tract. The adult prostate is composed of three cell lineages: the basal cells, the luminal cells and the neuroendocrine cells.

To precisely define the cellular hierarchy of the prostate during the development under physiological conditions, **Marielle Ousset** and colleagues used state of the art genetic lineage tracing approach to fluorescently mark the different cell types of the prostate and follow the fate of marked cells overtime. The researchers found that multipotent and unipotent SCs contribute to prostate postnatal development. "We were very surprised and excited when we discovered that multipotent SCs ensure the major epithelial expansion, giving rise to unipotent progenitors and to neuroendocrine cells. Indeed, these results contrast to the situation we have recently found in the mammary gland, which develops through the presence of unipotent stem cells" said Marielle Ousset, PhD and co-first author of this study. "These new findings establish a new paradigm for the mode of development of glandular epithelia and will be extremely important for those studying development, stem cells and prostate but also open new avenues to uncover the cells at the origin of the prostate cancer, a very important question, not yet

completely solved” said Cédric Blanpain, the senior and corresponding author of the ***Nature Cell Biology*** paper.

In conclusion, this new study, published in the online early edition of ***Nature Cell Biology***, identifies a new multipotent stem cell population in the prostate tissue that ensure its postnatal development.

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Multipotent and unipotent progenitors contribute to prostate postnatal development

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